INDEX

to Electronics & Power

Volume 12 1966

Items in 'Electron aspects', writers of letters to the Editor, obituary and books reviewed are listed in separate appendixes and not in the main body of the index.

A

Accounts for 1965 249
Active and passive phonon devices by E. A. Ash 158
Addresses
· Control & Automation Division, chairman's, 1966–67: Summary of 383
· East Midland Centre, chairman's, 1965–66: Article based on 186
· Electronics Division, chairman's, 1966–67: Summary of 384
· North-Eastern Centre, chairman's, 1965–66: Article based on 51
· North-Western Supply Section, chairman's, 1965–66: Article based on 88
· Power Division, chairman's, 1966–67: Summary of 385
· Presidential (1966–67): Summary of 381
Aerials (large steerable), design and construction of: Report of conference on 316
Alexander, W. *Principles and applications of magnetostriction* 186
Announcements to members 27, 58, 95, 139, 166, 210, 264, 304, 334, 374, 410, 442
Annual General Meeting 139, 243
Annual Report for 1965–66 244
Appleton (Sir Edward) Memorial Fund: Appointment of President as trustee of 408
Appleton's contribution to radio science: 1st Appleton Lecture, by J. A. Ratcliffe 34
Application of the Hall effect by J. P. Newsome 127
Appointments and nominations 166, 210, 444
Armstrong, B. D. *Automatic landing—recent RAE contributions* 225
Ash, E. A. *Active and passive phonon devices* 158
Australia: Subscriptions of members in 27
Automatic control in electricity supply, conference on: Report of 255
Automatic control in railway systems by S. Jones 180
Automatic landing—recent RAE contributions by B. D. Armstrong 225
Automation and industry by S. S. Carlisle 383

B

Ballistic theory of light, modern physics and by R. A Waldron 394
Balloting procedure 94
Barak, M. *Georges Leclanché (1839–82)* 184
Barwell, F. T. *Research for railway electrification* 311
Bearing of information theory on sociology and economics by C. G. Mayo 286
Bell, H. V. *Computer control of real-time systems* 347
Benevolent Fund, Incorporated
· Court of Governors 264, 403
· Local Honorary Treasurers of 264
Bentham, F. *'Painting the stage'—a review of British theatre lighting* 104
BEPC: Reduction of Institution's allocation of delegates 333
Bermuda Professional Group: Formation of 94
Bevan, P. A. T.
· Address as chairman (1966–67) of Electronics Division: Summary of 384
· Biographical note of 355
Bishop, Sir Harold
· Honorary Membership: Election to 58
· Biographical note of 89
Books (*see* Appendix D)
Booth, E. S.
· Address as chairman (1966–67) of Power Division: Summary of 385
· Biographical note of 356
Bright, A. W. *Recent developments in electrostatics* 291
British Columbia, a century of engineering in by D. W. Soughan 390
British Standards, new and revised 57, 209, 265, 301, 327
British theatre lighting, a review of by F. Bentham 104
Buildings, regulations for the electrical equipment of (*see* Wiring Regulations)
Bylaws of the Institution: Revision of 27

C

Cable-fault location by H. T. Gooding 44
Cambridge Electronics Section: Extension of scope and change of title of 162
Caravans, recommended practice for electrical installations in: To be withdrawn from publication 333
Carlisle, S. S.
· Address as chairman (1966–67) of Control & Automation Division: Summary of 383
· Biographical note of 356
Case for production electronics in education by K. J. Dean 70
Cells (standard) by E. W. Tucker 421
Century of engineering, a, in British Columbia by D. W. Soughan 390
CIGRÉ, 1966: Report of 280
Clifford, P. M. *Standards for electrical measurement* 419
Clifford, P. M. *The Weston cell as a house standard of e.m.f.* 425
Cloud electricity, the generation of: Lecture by B. J. Mason: Article based on 147
Cluley, J. C. *Predicting the reliability of a system* 361
Commercial buildings, lighting for by J. F. Roper 297
Committees of the Institution: Constitution
· Council, 1966–67 398
· Divisional Boards, 1966–67 397
· Local Centres, 1966–67 399
· Miscellaneous, 1966–67 398
· Overseas Branches and Committees, 1966–67 402, 403
Companions of the IEE: Certificate of membership for 94
Computer control of real-time systems by H. V. Bell 347
Computers and engineers by J. R. Mortlock 351
Conference Publications (IEE) 27, 95, 166, 210, 334, 374, 410
Conferences
· Automatic control in electricity supply: Report of 255
· CIGRÉ, 1966: Report of 280
· Design and construction of large steerable aerials for satellite communication, radioastronomy and radar: Report of 316
· IEE/SEP: Report of 254
· Power applications of controllable semiconductor devices: Report of 109
Congress, 3rd IFAC 271
Construction sites, electrical supplies for by J. Crisp 20
Control Abstracts: Publication of 166
Control & Automation Division
· Annual Lecture (1st), by S. Jones: Article based on 180
Control & Automation Division (continued)
· Board of:
  Constitution of (1966–67) 397
  Representation on Council 27
· Chairman, 1966–67:
  Address by: Summary of 383
  Biographical note of 356
· Professional Groups: Changes in definitions of scope of 94
Council of Engineering Institutions
· Annual Report of 90
· Charter of Incorporation 25
· Examination of: Adoption of as academic qualification for IEE membership 162
· Local committees: Proposed formation of 94
Council of the Institution
· Appointments to fill casual vacancies on 408
· 1965–66: Constitution of 263
· 1966–67: Constitution of 397
· Meetings: Reports of 27, 94, 162, 265, 333, 408, 444
· Overseas Representatives of 27, 162, 263, 265, 333, 403
Creative design—a new approach to fundamentals by E. Matchett 436
Crisp, J. *Electrical supplies for construction sites* 20
Cruachan pumped-storage development, the by A. A. Fulton 220

D

Dean, K. J. *The case for production electronics in education* 70
Dellow, F. *Electrical engineering education in the United States of America* 86
Distribution-system operation and maintenance by E. A. Sims 51
Dorrat, J. A. *A machine age in welding* 78
Drucquer, L. *A living thing* 1
Dummer, G. W. A. *Electronic-circuit connections.*
Part 1—Soldering, wrapping and welding 202
Part 2—Plugs and sockets and permanent joints 257

E

Early Bird and the Goonhilly earth station by H. Stanesby 75
East Midland Centre: Article based on address by chairman, 1965–66 186
East Midland Electronics & Control Section: Extension of scope of 27
East Midland Power Section: Formation of 162
Eastern Caribbean: Overseas Representative of the Council for 265
Education and training
· *Production electronics in education, the case for* by K. J. Dean 70
Elections and transfers 28, 56, 95, 138, 165, 207, 266, 303, 332, 373, 408, 443
Electrical and electronic engineering, selection of topics for research in: Report of discussion on 12, 114
Electrical engineering education in the United States of America by F. Dellow 86
Electrical-engineering research, long-term grants for 310
Electrical Engineers' Exhibition (13th) 65
Electrical measurement, standards for by P. M. Clifford 419
Electrical measuring instruments, Joint Professional Group on: Establishment of 444
Electrical supplies for construction sites by J. Crisp 20

Electrical-system design by computer by K. C. Parton 174
Electricity supply, automatic control in: Report of conference on 255
Electroacoustics, some recent advances in by E. Meyer 66
'Electron aspects' (*see* Appendix A)
Electron-probe instruments, new by C. W. Oatley 282
Electronic-circuit connections by G. W. A. Dummer 202, 257
Electronic control of a gas supergrid by A. J. Keeling 239
Electronic techniques in telephone switching by L. R. F. Harris 274
Electronics & Power
· Corrections to 6, 201, 273
· Readers' opinion on 217
Electronics Division
· Board of
Constitution of (1966–67) 397
Representation on Council 444
· Chairman, 1966–67:
Address by: Summary of 384
Biographical note of 355
· Design and construction of large steerable aerials for satellite communication, radioastronomy and radar, conference on: Report of 316
· Lectures
Electroacoustics by E. Meyer: Article based on 66
Holography by D. Gabor: Article based on 230
· Premiums: Awards of 334
· Professional Groups E3 and E4: Amalgamation of 444
Electrostatics, recent developments in by A. W. Bright 291
Elementary particle (the) and the billiard ball by R. O. Kapp 46
E.M.F., the Weston cell as a house standard of by P. M. Clifford 425
Engineer (the) in society, the place of: 12th Graham Clark Lecture, by the Rt. Hon. The Lord Snow 152
Engineering Institutions, Council of
· Annual Report of 90
· Charter of Incorporation 25
· Examination of: Adoption of as academic qualification for IEE membership 162
· Local committees: Proposed formation of 94
ERA publications 265
Examination (the IEE)
· Board of examiners for 1966 210
· Board of examiners for 1967 442
· Report of 1965 (October and November) examination 96
· Report of 1966 (April) examination 374
· Termination of 162

F

Faraday Medal: 44th award, to J. A. Ratcliffe 58
Flux, notions of by N. M. Morris 19
Fowler, A. L., and Hamilton, G. W. *The laser rangefinder* 318
Frequencies (subaudio), measurement at by H. Sutcliffe 131
Fulton, A. A. *The Cruachan pumped-storage development* 220

G

Gabor, D. *Holography—the reconstruction of waveforms* 230
Garrard, C. J. O. *Some recent developments in high-voltage switchgear* 194
Gas supergrid, electronic control of by A. J. Keeling 239
Georges Leclanché (1839–82) by M. Barak 184
Gooding, H. T. *Cable-fault location* 44
Goonhilly earth station, Early Bird and the by H. Stanesby 75
Graduate & Student Premiums: Awards of 334
Graham Clark Lecture (12th), by the Rt. Hon. The Lord Snow 152

H

Hall effect, application of the by J. P. Newsome 127
Hamilton, G. W., and Fowler, A. L. *The laser rangefinder* 318
Harknett, M. R. *Introducing m.o.s.t. devices* 3
Harris, L. R. F. *Electronic techniques in telephone switching* 274
Hester, D. R. *Processing monolithic silicon integrated circuits* 323
H.F. radiocommunication—some new aspects by F. J. Lengyel 110
High voltage, progress in by F. W. Taylor 88
High-voltage switchgear, some recent developments in by C. J. O. Garrard 194
History of technology, Professional Group on: Formation of 265
Holography—the reconstruction of waveforms by D. Gabor 230
Honorary Membership: Election of Sir Harold Bishop 58
Honours and distinctions conferred on members 58, 304
Human engineering—a useful analogy by J. W. Mitchell 192
Hunter Memorial Lecture (8th), by G. G. Macfarlane: Article based on 40

I

IEE News: Readers' opinion on 217
IEE, the
· Accounts for 1965 249
· Annual General Meeting 139, 243
· Annual Report for 1965–66 244
· Bylaws: Revision of 27
· Council (*see* Council)
· Examination (*see* Examination)
· Joint conference with SEP: Report of 254
· Officers of 262, 397
· Premiums: Awards of 334
· Prizes: Awards of, for 1965 333
· Representatives of, on other bodies (*see* Appointments and nominations)
IERE and IEE, joint meeting of: Report of 114
IFAC congress (3rd) 271
Independent Television Service, some highlights in the engineering of the by P. A. T. Bevan 384
India, Overseas Representative of the Council for 333
Indian members: Subscriptions payable by 408
Information theory, the bearing of, on sociology and economics by C. G. Mayo 286
Introducing m.o.s.t. devices by M. R. Harknett 3
Ionosphere and the engineer by J. A. Ratcliffe 381
Israel
· Overseas Branch in: Establishment of 333
· Overseas Representative of the Council for: Appointment of 333

J

Jarvis, C. MacKechnie *Some Victorian electricians* 121
Jones, S. *Automatic control in railway systems* 180

K

Kapp, R. O. *The elementary particle and the billiard ball* 46
Keeling, A. J. *Electronic control of a gas supergrid* 239
Kennedy, G. *Power-station design—an outline of trends in the United States* 37

L

Large steerable aerials, design and construction of: Report of conference on 316
Laser rangefinder by G. W. Hamilton and A. L. Fowler 318
Lasers and associated devices: 8th Hunter Memorial Lecture, by G. G. Macfarlane: Article based on 40
Lectures
· Appleton (1st), by J. A. Ratcliffe: Shortened version of 34
· *Connections in electronic circuits* by G. W. A. Dummer: Article based on 202
· Control & Automation Division, 1st Annual, by S. Jones: Article based on 180
· *Electroacoustics* by E. Meyer: Article based on 66
· *Explanation of some fundamental phenomena of modern physics using a ballistic theory of light* by R. A. Waldron: Article based on 394
· *Generation of cloud electricity* by B. J. Mason: Article based on 147
· Graham Clark (12th), by the Rt. Hon. The Lord Snow 152
· *Holography* by D. Gabor: Article based on 230
· Hunter Memorial (8th), by G. G. Macfarlane: Article based on 40
· Power Division, Annual (1966), by A. A. Fulton: Article based on 220
· *Some Victorian electricians* by C. Mackechnie Jarvis: Article based on 121
Lengyel, F. J. *H.F. radiocommunication—some new aspects* 110
Letters to the Editor (*see* Appendix B)
Light, modern physics and a ballistic theory of by R. A. Waldron 394
Lighting for commercial buildings by J. F. Roper 297
Lightning flash, mechanism of the by B. J. Mason 147
Living thing, a by L. Drucquer 1
Local Centres and Sub-Centres
· Benevolent Fund, Local Honorary Treasurers of 264
· Committees, 1966–67: Constitution of 399
· Membership Advisers in: Appointment of 94, 265, 333
· Officers of 262

M

Macfarlane, G. G. Hunter Memorial Lecture (8th) on *Lasers and associated devices:* Article based on 40
Machine age in welding by J. A. Dorrat 78
Magnetostriction, principles and applications of by W. Alexander 186
Making the best of it—the proper use of a technical library by J. E. Wright 71
Malaysia: Overseas Representative of the Council for 265
Mason, B. J. *Mechanism of the lightning flash* 147
Matchett, E. *Creative design—a new approach to fundamentals* 436
Mayo, C. G. *The bearing of information theory on sociology and economics* 286
Measurement at subaudio frequencies by H. Sutcliffe 131
Mechanism of the lightning flash by B. J. Mason 147
Meetings
· Annual General 139, 243
· Council: Reports of 27, 94, 162, 265, 333, 408, 444
· Joint meeting of IEE and IERE: Report of 12, 114
Members
· Announcements to 27, 58, 95, 139, 166, 210, 264, 304, 334, 374, 410, 442
· Companions: Certificate of membership for 94
· Honours and distinctions conferred on 58, 304
Membership
· Advisers in Centres and Sub-Centres: Appointment of 94, 265, 333
· Advisers overseas 265, 333
· Honorary (*see* Honorary)
· Readmission to 444
Meyer, E. *Some recent advances in electroacoustics* 66
Mitchell, J. W. *Human engineering—a useful analogy* 192
Model Forms of General Conditions of Contract: Publication of revised version of 94
Modern approach to ripple control by W. Szwander 7
Modern physics and a ballistic theory of light by R. A. Waldron 394
Morris, N. M. *Notions of flux* 19
Mortlock, J. R. *Computers and engineers* 351
M.O.S.T. devices, introducing by M. R. Harknett 3
Murphy, R. H. *The Zener diode—an accurate voltage-reference source* 430

N

New electron-probe instruments by C. W. Oatley 282
New products 29, 59, 97, 141, 167, 211, 267, 305, 335, 375, 411, 445
Newsome, J. P. *Application of the Hall effect* 127
Nominations and appointments 166, 210, 444
North-Eastern Centre: Address by Chairman, 1965–66: Article based on 51
North Midland Electronics Section: Extension of scope and change of title of 162
North-Western Centre conference on automatic control in electricity supply: Report of 255
North-Western Supply Section: Address by Chairman, 1965–66: Article based on 88
Notions of flux by N. M. Morris 19

O

Oatley, C. W. *New electron-probe instruments* 282
Obituary 407, 441 (*see also* Appendix C)
OECD: 18th survey of electric power equipment: Publication of 32
Officers of the Institution 262, 397
Overseas Branches, Committees, Joint Groups and Professional Groups
· Bermuda Professional Group: Formation of 94
· Constitution of 402, 403
· Israel, Overseas Branch in: Establishment of 333
· Membership of Professional Groups: Institutions whose members eligible for 94
· Officers of 94, 263
Overseas Premiums: Awards of 334
Overseas Representatives of the Council 27, 162, 263, 265, 333, 403
Overseas Representatives of the Council and their Deputies to act as Membership Advisers 265, 333

P

'Painting the stage'—a review of British theatre lighting by F. Bentham 104
Parton, K. C. *Electrical-system design by computer* 174
Phonon devices, active and passive by E. A. Ash 158
Place of the engineer in society: 12th Graham Clark Lecture, by the Rt. Hon. The Lord Snow 152
Polish Electrical Engineers, Association of: Joint conference with IEE: Report of 254
Port of London Authority: Presentation of plaque to 333
Postgraduate electrical students, practical engineering-management training for by W. K. Roots 341
Power applications of controllable semiconductor devices: Report of conference on 109
Power Division
· Annual Lecture (1966), by A. A. Fulton: Article based on 220
· Board of
Constitution of (1966–67) 398
Representation on Council 27, 444
· Chairman, 1966–67:
Address by: Summary of 385
Biographical note of 356
· Power applications of controllable semiconductor devices, conference on: Report of 109
· Premiums: Awards of 334
Power-station design—an outline of trends in the United States by G. Kennedy 37
Power supply for 1970 by E. S. Booth 385
Practical engineering-management training for postgraduate electrical students by W. K. Roots 341
Predicting the reliability of a system by J. C. Cluley 361
Premiums: Awards of 334
President (1965–66) (*see* Drucquer, L.)
President (1966–67) (*see* Ratcliffe, J. A.)
Principles and applications of magnetostriction by W. Alexander 186
Prizes (IEE): Awards for 1965 333
Processing monolithic silicon integrated circuits by D. R. Hester 323
Production electronics in education, the case for by K. J. Dean 70
Professional Groups
· Group J1: Scope of 162
· Titles of: Changes of 162
Progress in high voltage by F. W. Taylor 88

Q

Queensland Overseas Committee: Honorary Secretary of 162

R

Radio science, Appleton's contribution to: 1st Appleton Lecture, by J. A. Ratcliffe 34
Radiocommunication (h.f.)—some new aspects by F. J. Lengyel 110
Railway electrification, research for by F. T. Barwell 311
Railway systems, automatic control in by S. Jones 180
Rainger, P. *A slow-motion video tape recorder* 386
Ratcliffe, J. A.
· Address of inauguration as President (1966–67): Summary of 381
· Appleton Lecture (1st) on *Appleton's contribution to radio science:* Shortened version of 34
· Award of Faraday Medal to 58
· Biographical note of 89
· *Ionosphere and the engineer* 381
· Profile of 355
Readers' opinion on '*E & P*' and '*IEE News*'—results of a survey 217
Real-time systems, computer control of by H. V. Bell 347
Recent developments in electrostatics by A. W. Bright 291
Regulations for the electrical equipment of buildings (*see* Wiring Regulations)
Reliability of a system, predicting the by J. C. Cluley 361
Report, IEE Annual, 1965–66 244
Representatives of the Institution on other bodies (*see* Appointments and nominations)
Research for railway electrification by F. T. Barwell 311
Research in electrical and electronic engineering, selection of topics for: Report of discussion on 12, 114
Ripple control, modern approach to by W. Szwander 7
Robinson, John S., & Robinson, Olive M., Memorial Fund: Further donation to 333
Roots, W. K. *Practical engineering-management training for postgraduate electrical students* 341
Roper, J. F. *Lighting for commercial buildings* 297
Royal Aeronautical Society: Presentation to 333
Royal Aircraft Establishment: Recent contributions to study of automatic landing of civil aircraft 225

S

Scholarships
· Awards of 410, 442
· John S. Robinson & Olive M. Robinson Memorial Fund: Further donation to 333
Science Abstracts: Introduction of additional section 27
Science & Education Joint Board
· Constitution of (1965–66) 139
· Constitution of (1966–67) 398
Science & General Division
· Premiums: Awards of 334
Selection of topics for research in electrical and electronic engineering: Report of discussion on 12, 114
Semiconductor devices (controllable), power applications of: Report of conference on 109
SEP–IEE Conference: Report of 254
Silicon integrated circuit (monolithic), processing by D. R. Hester 323
Sims, E. A. *Distribution-system operation and maintenance* 51
Slow-motion video tape recorder by P. Rainger 386
Snow, the Rt. Hon. The Lord. Graham Clark Lecture (12th) on *The place of the engineer in society* 152
Sociology and economics, the bearing of information theory on by C. G. Mayo 286
Some highlights in the engineering of the Independent Television Service by P. A. T. Bevan 384
Some recent advances in electroacoustics by E. Meyer 66
Some recent books (*see* Appendix D)
Some recent developments in high-voltage switchgear by C. J. O. Garrard 194
Some Victorian electricians by C. Mackechnie Jarvis 121
Soughan, D. W. *A century of engineering in British Columbia* 390
South Australia Overseas Committee: Appointment of Honorary Secretary of 94
South Midland Electronics Section: Extension of scope and change of title of 162
Southern Centre: Extension of scope of Electronics Section 94
Speculum naturale—an interesting discovery by J. E. Wright 354
Standard cells by E. W. Tucker 421
Standards for electrical measurement by P. M. Clifford 419
Stanesby, H. *Early Bird and the Goonhilly earth station* 75
Students (postgraduate electrical), practical engineering-management training for by W. K. Roots 341
Subaudio frequencies, measurement at by H. Sutcliffe 131
Subscriptions of members in Australia 27
Subscriptions payable by Indian members 408
Subscriptions to publications of other engineering institutions 442
Sutcliffe, H. *Measurement at subaudio frequencies* 131
Switchgear (high-voltage), some recent developments in by C. J. O. Garrard 194
Switzerland: Overseas Representative of the Council for 162
Szwander, W. *Modern approach to ripple control* 7

T

Tasmania: Overseas Representative of the Council for 27, 162
Taylor, F. W. *Progress in high voltage* 88
Technical library, the proper use of a by J. E. Wright 71
Technical publications 57, 209, 265
Technology, History of: Formation of Professional Group on 265
Telephone switching, electronic techniques in by L. R. F. Harris 274
Theatre lighting (British), a review of by F. Bentham 104
Thyristors—present uses and possible trends, conference on: Report of 109
Tucker, E. W. *Standard cells* 421

U

United Kingdom Automation Council: Increased IEE subscription to 94
United States, an outline of trends in power-station design in the by G. Kennedy 37
United States of America, electrical engineering education in the by F. Dellow 86
USA: Overseas Representative of the Council for 333

V

Victoria and Tasmania Overseas Committee: Appointment of Honorary Secretary of 94
Victorian electricians (some) by C. MacKechnie Jarvis 121
Video tape recorder, a slow-motion by P. Rainger 386

W

Waldron, R. A. *Modern physics and a ballistic theory of light* 394
Welding, a machine age in by J. A. Dorrat 78
Western Electronics Section
· Extension of scope and change of title of 162
· Lecture by G. W. A. Dummer: Article based on 202
Weston cell as a house standard of e.m.f. by P. M. Clifford 425
Wiring Regulations (14th edition): Publication of 333, 406, 410
Wright, J. E. *Making the best of it—the proper use of a technical library* 71
Wright, J. E. *Speculum naturale—an interesting discovery* 354

Z

Zener diode—an accurate voltage-reference source by R. H. Murphy 439

Appendix A

Electron aspects

- A.C. diesel–electric drive system (new) 415
- Acoustic noise from electric machines 2
- All-solid-state electron microscope (first) 360
- Aluminium in house wiring 310
- ASEE Exhibition awards 146
- Automatic control of electricity supply 63
- Britain's space probe 32
- British scientists chase the Sun 216
- Canada's new radiotelescope 417
- Carpets on heated floors 65
- Cathodic control 33
- CEGB and Electricity Council reports 417
- CEGB charging structure (new) 215
- Chelm's Coombe national tower-testing station (CEGB): Opening of 216
- Computer control for Liverpool's traffic 416
- Computer detects track irregularities 339
- Computer simulation of h.v.d.c. systems 145
- Computers take over 271
- Continued expansion of NRDC activities 340
- Corona-loss measurement 101
- Crossed arrays improve radar resolution 379
- D.C. power-link 102
- D.C. transformers 102
- Electric storage radiators (offpeak), sales of 360
- Electrical safety in explosive atmospheres 415
- Electro-Agricultural Centre: Building of 360
- Electrolysis solves sewage-disposal problem 416
- Electronic composition—a revolution in typesetting? 380
- Electronic muscle stimulation for paralysed patients 380
- Electronics aids cardiac investigations 340
- Equipment for hazardous atmospheres 2
- First all-transistor submarine cables 172
- Frequencies for microwave distance measuring 172
- Giant rolling-mill for aluminium 380
- Giant variable-speed motors 31
- Good prospects for high-temperature reactors 65
- GPO orders p.c.m. equipment 309
- High conductivity by deep cooling 309
- Homopolar generator gives 1·6 MA pulses 273
- H.V.D.C. valve on test 379
- Improved exports 310
- Improved Gunn device 173
- Improvements in discharge lamps 101
- Insulator protection 145
- Integrated circuits by electron beam 173
- Invariance overthrown 273
- ITU competition for sculpture at Geneva headquarters: Result of 33
- Laser light in pipes 64
- Laser welding 216
- Linear induction motors for low-speed and standstill application 172
- Long-term grants for electrical-engineering research 310
- Measuring laser output energy 272
- Measuring the shape of large radio reflectors 309
- Metricate by 1975! 33
- Microwave photodetector 215
- Modular h.f. instruments 32
- More cash for the NRDC 2
- Need for computer-program index 339
- New binary counter circuit 2
- New Soviet aluminium alloy 171
- New technique for generating short-duration pulses 271
- Noise performance of Gunn oscillators in X and J bands 146
- OECD and UN reports on energy 32
- Optical-communication link to aid measurements on high-voltage conductors 339
- Optoelectronic device for frequency changing 171
- Pacemaker 6
- PAL t.v. improvement 103
- Pattern recognition by machine 310
- Portable capacitance standard 64

Electron aspects (continued)

- Post Office automation 340
- Power by superconductors 146
- Power outputs from solid-state Gunn-effect oscillators 360
- Power-reactor assessment study 360
- Progress in electrostatics 101
- Progress in h.v.d.c. 379
- Prospects for uranium 63
- Prototype fast reactor at Dounreay 332
- Radar-echo elimination 415
- Rapid large-current reversal in inductive loads 416
- Rare ingot 173
- Rendezvous for engineers 65
- Sensitive eye, the 63
- Simplification of standards 215
- Single-phase 700 kV autotransformer for Canada 339
- Sodium cables 31
- Standard screw threads 2
- Sun-powered radiotelephones for motorway 332
- Surge protection 6
- Television conversion 171
- Thin-film laboratory 272
- 35 000 MVA circuit breakers 273
- Tissue-implanted switch 216
- Transalpine Petroleum Pipeline 360
- Two firsts (CEGB SF_6 circuit breakers and 500 MW single-line turbogenerator sets) 102
- Using sound to switch fluid logic 172
- Wanted—swordsmen 271
- Waveguides in the news 379
- What to do about imports 103

Appendix B

Letters to the Editor

- Allen, F. J. *Inductor-alternator terminology* 359
- Allison, A. A. *Role of the critic* 85
- Anderson, A. F. *Some Victorian electricians* 199
- Anderson, A. F., and Cruickshank, A. J. O. *Development of the reluctance motor* 48
- Anderson, J. *The etymology of Asdic* 18
- Armstrong, H. L. *Should our choice of primary electrical standards be reconsidered?* 290
- Aspden, H. *The gyromagnetic ratio* 288
- Aspden, H. *Radiation-pressure discrepancy* 236
- Barfield, T. J. *Declaring the author's allegiance* 156
- Bell, D. A. *Production electronics in education* 120
- Blewitt, L. G. *Crimped connections* 329
- Bly, D. W. J. *IEE conferences* 236
- Bowers, B. *Some Victorian electricians* 289
- Bray, P. R. *Measurement at subaudio frequencies* 329
- Brigginshaw, B. A., Curtis, D., Harrison, R., Jones, G. E., Noakes, E. J., and Peters, A. *Requirements for corporate membership* 120
- Briggs, C. S. *Corporate membership* 18
- Bruce, C. E. R. *Lightning currents* 200
- Clapham, H. E. *Power-station auxiliaries* 82
- Copping, B. *Times of meetings* 360
- Cotsell, G. W. *Satellite size* 200
- Crawford, A. E. *Magnetostriction transducers* 289
- Crawford, D. R. *Power-station auxiliaries* 82
- Crisp, J. *Construction-site equipment* 83
- Cullwick, E. G. *Radiation-pressure discrepancy* 235
- Davies, A. C. *Connecting two-port networks* 288
- Davies, E. J. *Inductor-alternator terminology* 434
- Davies, E. R. *Sociology and economics* 404
- Dawson, J. G. *Poor attendance or poor timing?* 237
- Dell, D. G. *The sea as a conductor* 84
- Demetsopoullos, I. C. *Ballistic theory of light* 435
- Dignum, R. *Connecting two-port networks* 288
- Drakes, D. F. *Power-station control* 405
- Dummer, G. W. A. *Crimped connections* 329
- El Hakim, Y., and Zaky, A. A. *Problem of the capacitors* 49
- Elliott, E. *Remuneration survey* 329
- Fitch, R. A. *Problem of the capacitors* 49
- Foord, K. J. *Ripple control* 83
- Fowke, A. F. *Improving the engineer's image* 405
- Fowkes, F. K. *Live-line working* 200
- Frewer, R. A. *Connecting two-port networks* 155, 288
- Gange, H. G. *Human engineering* 404
- Giggall, E. G. *Ripple control* 330
- Gilbert, J. F. *Use of the title C.Eng.* 49

Letters to the Editor (continued)

- Griffin, J. *Declaring the author's allegiance* 237
- Griffin, J. *Power-station auxiliaries* 82
- Gross, E. T. B. *Electrical engineering education in the United States* 238
- Hall, K. S. *Notions of flux* 83, 201
- Hallam, T. W. M. *Changes in membership structure* 359
- Harry, R. *Status of the engineer* 359
- Hazel, J. R. *Power-station auxiliaries* 82
- Head, J. E. *The crystal detector* 236
- Heap, H. R. *Library facilities for Continental members* 330
- Henzell, M. P. *New layout for power stations* 238
- Hirst, A. C. *More specialisation or less?* 156
- Holloway, H. *Register of Chartered Engineers* 155
- Holmes, R. *Speculum naturale* 405
- Jarvis, C. MacKechnie *Some Victorian electricians* 199
- Jones, C. *Problem of the capacitors* 49
- Kemp, P. *Symmetrical components in unbalanced 3-phase systems* 357
- Kennedy, G. *Power-station design* 120
- Kershaw, C. A. *Offpeak tariffs* 289
- King, G. *The crystal detector* 236
- Kitai, R. *Measurements at subaudio frequencies* 238
- Knight, P. *Radiation-pressure discrepancy* 156
- Lay, R. K. *Inductor-alternator terminology* 287, 435
- Lee, W. R. *Death from electric shock* 50
- Lironi, T. V. *Ripple control* 120
- Locke, R. A. *Formal style* 50
- Lydiard, G. F. *Construction-site equipment* 83
- Macdonald, J. H. *The etymology of Asdic* 155
- Mainwaring, R. G. *Aluminium alloys* 290
- Maughfling, G. *Graphical symbols and casual phrasing* 405
- Midgley, D., and Ollerton, E. *Geometrical construction for symmetrical components in unbalanced 3-phase systems* 235
- Miller, A. W. *The etymology of Asdic* 83
- Minter, R. W. *The crystal detector* 156, 328
- Minter, R. W. *Status of the engineer* 433
- Mitchell, J. W. E. *Human engineering* 404
- Mitra, P. K. *Protection of c.m.r. motors* 84
- Money, R. W. *The crystal detector* 237
- Money, R. W. *Lament for British graphical symbols* 433
- Moran, T. A. *Ripple control* 201
- Morris, F. L. *Election machinery* 18
- Morris, N. M. *Notions of flux* 119, 329
- Mortimer, E. L. *A novel mode of machine operation* 18
- Nicholas, J. R. *Power-station auxiliaries* 82
- Norman, R. G. *Human engineering* 287
- Ostinelli, V. *Library facilities for Continental members* 289
- Ouyang, M. *Problem of the capacitors* 49
- Perrin, J. F. *The crystal detector* 328
- Pontin, G. W. W. *Ripple control* 155
- Potok, M. H. N. *More specialisation or less?* 85, 157
- Potter, J. G. *Death from electric shock* 50
- Prigmore, B. J. *Casual phrasing* 360
- Pugh, C. E., Street, J., and O'Donoghue, K. A. *New layout for power stations* 238
- Rawll, R. H. *The crystal detector* 328
- Rawll, R. H. *Some Victorian electricians* 199
- Reading, J. *Lament for British graphical symbols* 358
- Ross, W. *Categories of research* 119
- Rumble, R. V. *Power-station design* 120
- Scotson, G. R. F. *Inhibition of scale* 50
- Sharp, P. E. M. *'Painting the stage'* 201
- Sigournay, N. L. *Reliability* 434
- Simmons, B. D. *Electronic telephone exchanges* 330
- Sims, E. A. *Live-line working* 200
- Steven, R. E. *F. & K. were right?* 433
- Strand, R. C. *Problem of the capacitors* 48
- Supper, J. B. *Intellectual levels* 290
- Swinney, E. *The crystal detector* 84, 328
- Szwander, W. *Ripple control* 84, 120
- Tavendale, A. B., and Chapman, E. A. *The sea as a conductor* 201
- Thomas, G. H. *Status of the engineer* 433
- Thomson, J. *Variable-demand metering* 50
- Turnbull, J. C. *Election machinery* 18
- van Hasselt, M. *Analytical ability* 119

67 104A A 30

Letters to the Editor (continued)
. Waldron, R. A. *Radiation-pressure discrepancy* 235
. Walker, J. H. *Inductor-alternator terminology* 434
. Watson, J. *Prior publication* 126
. Weighton D. *Satellite instrumentation* 119
. Williams, G. E. *Lament for British graphical symbols* 358, 434
. Wilmshurst, A. P. *Some Victorian electricians* 199
. Winckworth, J. W., and Nicol, A. W. *Readership survey* 84
. Woods, D. *Modular coaxial instruments* 126
. Wright, M. S. *The linear motor for hovertrain propulsion* 290
. Young, J. F. *Symmetrical components in unbalanced 3-phase systems* 329, 435

Appendix C

Obituary

. Agate, C. S. 207
. Anderson, F. W. M. 331
. Babb, D. A. 24
. Ball, R. D. 93
. Bent, F. 261
. Breach, L. 24
. Briton, J. N. 24
. Burr, J. W. 93
. Chartres, C. B. 331
. Collyer, J. E. 365
. Connan, W. J. 207
. Courtier-Forster, T. F. 24
. Cox, J. R. 93
. Crowe, H. E. 140
. Dalton, G. A. 140
. Davey, F. W. 140
. Dick-Cleland, A. W. A. 140
. Eccles, W. H. 365
. Elliott, N. 54
. Fisk, Sir Ernest Thomas 54
. Garrett, W. B. 162
. Gibbard, H. E. 24
. Gripper, H. J. 331
. Haigh, H. 261
. Harding, P. H. 331
. Hart, S. 365
. Havekin, The Rev. T. 331
. Henderson, A. 54
. Hodges, C. C. 365
. Hogan, C. F. 140
. Hogarth, L. B. 261
. Huntley, R. J. 304
. Irwin, R. S. 304
. Kapp, R. O. 207
. Larard, F. J. 261
. Lash, A. R. 261
. Lucas, J. H. 93
. McConnell, J. A. 207
. McKinnon, E. C. 140
. Mann, W. E. G. 331
. Mansfield, A. N. 331
. Marshall, C. R. 93
. Miles, P. V. C. R. 93
. Mills, C. J. 304
. Moody, D. 93
. Newey, F. 93
. O'Neill, W. 24
. Philpott, S. F. 331
. Pidgeon, J. E. 140
. Pilsbury, R. C. 24
. Richardson, F. B. 93
. Riley, T. N. 331
. Ritter, E. S. 331
. Roy, N. N. 365
. Russell, B. L.-P. 207
. Rye, A. N. 54
. Small, A. J. 365
. Speirs, C. W. 304
. Spilsbury, R. S. J. 24
. Straw, J. G. 162
. Thompson, H. S. 365
. Travis, W. 365
. Tyacke, J. A. 93
. Unwin, F. R. 140
. Voit, R. A. 140
. Waters, H. C. 207
. Webb, P. D. 140
. Whyman, F. 365
. Wilson, C. A. 24
. Young, A. H. 365

Appendix D

Some recent books

. Abrahams, J. R., and Pridham, G. J. *Semiconductor circuits: theory, design and experiment* 370
. Alger, P. L., Christensen, N. A., and Olmsted, S. P. *Ethical problems in engineering* 209
. Altman, J. L. *Microwave circuits* 17
. Ambrose, E. R. *Heat pumps and electric heating* 406
. Andrews, P. B. *A transfinite type theory with type variables* 370
. Baker, W. P. *Electrical insulation measurements* 302
. Bakish, R. (*editor*) *First international conference on electron and ion beam science and technology* 17
. Banford, A. P. *The transport of charged particle beams* 406
. Bedding, D. G. S., and Porter, D. W. *Higher mathematics examples for electrical engineering students* 370
. Bedford, B. D., and Hoft, R. G. *Principles of inverter circuits* 17
. Bennett, W. R., and Davey, J. R. *Data transmission* 17
. Bernshtein, L. B. *Tidal energy for electric power plants* 134

Some recent books (continued)

. Bierman, H. (*editor*) *Microelectronic design* 371
. Bjorken, J. D., and Drell, S. D. *Relativistic quantum fields* 55
. Brookes, A. M. P. *Advanced electric circuits* 371
. Carey, R., and Isaac, E. D. *Magnetic domains and techniques for their observation* 439
. Carey, R. J. P. *Finding and using technical information* 134
. Cassignol, E. J. *Semiconductors. Vol. 1—Physics and electronics* 407
. Cockcroft, Sir John *The organization of research establishments* 134
. Cowles, L. G. *Analysis and design of transistor circuits* 367
. Czech, J. *Oscilloscope measuring techniques* 367
. Déri, M. *Ferroelectric ceramics* 371
. Dicke, R. H. *The theoretical significance of experimental relativity* 134
. Dix, C. H., and Aldous, W. H. *Microwave valves* 439
. Dorf, R. C. *Time-domain analysis and design of control systems* 135
. Eaton, R. S., Jackson, H. S., and Buxton, C. R. *German for the scientist* 371
. Elenbaas, W. (*editor*) *High pressure mercury vapour lamps and their applications* 135
. Ellison, A. J. *Electromechanical energy conversion* 137
. Feinberg, R. (*editor*) *Handbook of electronic circuits* 302
. Fenton, K. *Thermal efficiency and power production* 371
. Frederick, J. F. *Ultrasonic engineering* 137
. Gilmour, W. D. *Electronic equipment in industry* 135
. Griffin, A. W., and Ramshaw, R. S. *The thyristor and its applications* 371
. Hall, J. A. *The measurement of temperature* 440
. Hartley, M. G. *An introduction to electronic analogue computers* 372
. Hill, D. W. *Principles of electronics in medical research* 135
. Hodkinson, G. L. *An introduction to electronics and telecommunications* 372
. Holland, L. (*editor*) *Thin film microelectronics* 135
. Hore, R. A. *Advanced studies in electrical power system design* 135
. Howson, D. P. *Mathematics for electrical circuit analysis* 372
. Hunter, LL.P. *Introduction to semiconductor phenomena and devices* 372
. Hyde, F. J. *Semiconductors* 163
. Jackson, K. G. *Dictionary of electrical engineering* 137
. Jevons, M. *Electrical machine theory* 302
. Johnson, C. C. *Field and wave electrodynamics* 209
. Jowett, C. E. *Reliability of electronic components* 136
. Karbowiak, A. E. *Trunk waveguide communication* 136
. Katayev, I. G. *Electromagnetic shock waves* 407
. King, A. J. *The measurement and suppression of noise* 163
. Kobrinskii, N. E., and Trakhtenbrot, B. A. *Introduction to the theory of finite automata* 302
. Korthals Altes, J. Ph. *Transistors in logical circuits* 137
. Lampitt, R. A. *Network analysis for telecommunications and electronics* 302
. Larach, S. (*editor*) *Photoelectronic materials and devices* 17
. Lees, C. *Patent protection—the inventor and his patent* 137
. Lewis, T. J., and Secker, P. E. *Science of materials* 302
. Lewis, W. E., and Pryce, D. G. *The application of matrix theory to electrical engineering* 136
. McCluskey, E. J. *Introduction to the theory of switching circuits* 368
. Macmillan, R. H., Higgins, T. J., and Naslin, P. (*editors*) *Progress in control engineering—Vol. 3* 439
. Madland, G. R., *et al.* *Integrated circuit engineering* 367
. Matsch, L. W. *Capacitors, magnetic circuits and transformers* 17
. Meem, J. L. *Two group reactor theory* 302
. Meisel, J. *Principles of electromechanical energy conversion* 368

Some recent books (continued)

. Messerle, H. K. *Dynamic circuit theory* 55
. Miller, J. R. (*editor*) *Solid-state communications—design of equipment using semiconductors* 439
. Millman, J., and Taub, H. *Pulse, digital and switching waveforms* 137
. Monod-Herzen, G. *Luminescence—l'électron et la lumière, matière et photoluminescence* 163
. Morton, A. H. *Advanced electrical engineering* 372
. Nelson, R. E., and Coryell, M. R. *Electrical parameters of precision, coaxial, air–dielectric transmission lines* 440
. Nussbaum, A. *Electromagnetic and quantum properties of materials* 440
. Olsen, E. *Applied magnetism: a study in quantities* 368
. Page, H. *Principles of aerial design* 440
. Panter, P. F. *Modulation, noise and spectral analysis* 136
. Papoular, R. *Electrical phenomena in gases* 136
. Paul, R. *Transistoren—Physikalische Grundlagen und Eigenschaften* 163
. Paul, R. J. A., *Fundamental analogue techniques* 441
. Pippard, A. B. *The dynamics of conduction electrons* 302
. Polgreen, G. R. *New applications of modern magnets* 137
. *Regulations for the electrical equipment of buildings (14th edition)* 406
. Rogers, F. E. *Topology and matrices in the solution of networks* 55
. Rosie, A. M. *Information and communication theory* 137
. Rowe, H. E. *Signals and noise in communication systems* 164
. Rumpf, K.-H., and Pulvers, M. *Transistor electronics* 137
. Sanford, R. S. *Physical networks* 137
. Schwarz, R. J., and Friedland, B. *Linear systems* 164
. Scott, M. R., Brooks, A., Lee, A. W., and Ramsey, H. B. *The use of mathematics in the electrical industry* 369
. Scroggie, M. G. *The electron in electronics* 440
. Sevin, L. J. *Field-effect transistors* 55
. Shevchik, V. N., Shvedov, F. N., and Soboleva, A. V. *Wave and oscillatory phenomena in electron beams at microwave frequencies* 407
. Sinha, K. K. (*editor*) *Symposium on steam power stations* 372
. Skilling, H. H. *Electrical engineering circuits (2nd edition)* 137
. Skwirzynski, J. K. *Design theory and data for electrical filters* 55
. Solodov, A. V. *Linear automatic control systems with varying parameters* 440
. Souders, M. *The engineer's companion* 372
. Sparkes, J. J. *Junction transistors* 372
. Sporn, P. *Research in electric power* 372
. Spring, K. H. (*editor*) *Direct generation of electricity* 369
. Stern, T. E. *Theory of nonlinear networks and systems* 164
. Stigant, S. A. *Mathematical and geometrical techniques for symmetrical component fault studies* 164
. Su, K. L. *Active network synthesis* 164
. Thorn, D. C. *An introduction to generalised circuits* 164
. Timmerhaus, K. D. (*editor*) *Advances in cryogenic engineering. Vol. 11* 441
. Tondl, A. *Some problems of rotor dynamics* 369
. Towers, T. D. *Elements of transistor pulse circuits* 164
. Trotman, R. E. *Longitudinal space-charge waves* 440
. Upson, A. R., and Batchelor, J. H. *Synchro engineering handbook* 370
. Volynskii, B. A., and Bukhman, Ye V. *Analogues for the solution of boundary-value problems* 303
. von Aulock, W. H. (*editor*) *Handbook of microwave ferrite materials* 163
. Walker, R. L. *An introduction to transistor electronics* 372
. Wolfendale, E. *Transistor bias tables (germanium)* 441
. Zemanian, Arman H. *Distribution theory and transform analysis* 164